INDEX

ABRAMOWITZ, ALEXANDER A. The chromatophorotropic hormone of Crustacea, 344.

Acanthephyridæ, eyes of, 57.

Accelerator substances, evidence for production by ultraviolet radiation of Limulus muscle, 75.

ALLEE, W. C., AND GERTRUDE EVANS. Some effects of numbers present on the rate of cleavage and early development in Arbacia, 217.

Amœba proteus, mitosis in, 125.

Amphiscolops langerhansi, reproductive system and copulation, 319.

Arbacia, cleavage rate, as affected by numbers present, 217.

Arbacia punctulata, prolongation of life in egg cells and calcium reduction, 366.

AREY, LESLIE B. Observations on two types of respiration in Onchidium, 41.

Aurelia, budding and locomotion in scyphistomas of, 99.

BACTERIA, and phosphorus cycle in the sea, 190.

BEADLE, G. W. *See* Clancy and Beadle, 47.

VON BRAND, THEODOR. Observations upon the nitrogen of the particulate matter in the sea, 1.

— ——, ——, NORRIS W. RAKESTRAW AND CHARLES E. RENN. The experimental decomposition and regeneration of nitrogenous organic matter in sea water, 165.

Budding and locomotion in scyphistomas of Aurelia, 99.

CALANUS finmarchicus, feeding rate of, in relation to environmental conditions, 233.

Calcium reduction and prolongation of life in egg cells of Arbacia punctulata, 366.

CAMERON, JOHN ANDREW. The mitotic rate in tadpole skin after repeated injury, 37.

Caterpillars, gustation and olfaction in, 7.

Centrifuging, behavior of maturation spindles in polar fragments of Ilyanassa eggs after, 88.

CHACE, F. A., JR. *See* Welsh and Chace, 57.

CHASE, HYMAN Y. The effect of ultraviolet light upon early development in eggs of Urechis caupo, 377.

Chromatophorotropic hormone of Crustacea, 344.

CHURNEY, LEON, AND HERBERT M. KLEIN. The electrical charge on nuclear constituents (salivary gland cells of Sciara coprophila), 384.

Clam, adult, seasonal gonadal changes, 406.

——, development of primary gonad in, 389.

CLANCY, C. W., AND G. W. BEADLE. Ovary transplants in Drosophila melanogaster: studies of the characters singed, fused, and female-sterile, 47.

Cleavage, rate in Arbacia, effects of numbers present, 217.

Color-changes, and chromatophorotropic hormone of Crustacea, 344.

—— ——, and diurnal rhythm in Ligia baudiniana, 24.

COONFIELD, B. R. Symmetry and regulation in Mnemiopsis leidyi, Agassiz, 299.

CUNNINGHAM, JOHN P. *See* Fox, Sverdrup and Cunningham, 417.

Cyst formation in glomerular tufts of certain fish kidneys, 247.

DALCQ, A., AND G. VANDEBROECK. On the significance of the polar spot in ripe unfertilized and in fertilized ascidian eggs, 311.

DAWSON, J. A., WALTER R. KESSLER AND JOSEPH K. SILBERSTEIN. Mitosis in Amœba proteus, 125.

Decomposition, experimental, nitrogenous organic matter in sea water, 165.

Depressor substances, production by ultraviolet radiation of Limulus muscle, 75.
DETHIER, VINCENT G. Gustation and olfaction in lepidopterous larvæ, 7.
Digestion, enzymes of, in Daphnia and Polyphemus, Diaptomus and Calanus, 290.
Drosophila melanogaster, ovary transplants in, 47.

ELECTRICAL charge on nuclear constituents of salivary gland cells, 384.
Embryonic determination, production of intermediate-winged aphids and, 259.
Endomixis, induction of, in Paramecium aurelia, 196.
Enzymes, digestive, in Daphnia and Polyphemus, Diaptomus and Calanus, 290.
EVANS, GERTRUDE. *See* Allee and Evans, 217.
Eyes, of Acanthephyridæ, 57.

FAURÉ-FREMIET, E. Licnophora lyngbycola, a new species of infusorian from Woods Hole, 212.
Feeding rate of Calanus finmarchicus in relation to environmental conditions, 233.
Food, effects on gastric epithelial cells of grasshopper, Melanoplus differentialis Thomas, 203.
——, rate of locomotion and reproduction in marine Amœba, 334.
FOX, DENIS L., H. U. SVERDRUP AND JOHN P. CUNNINGHAM. The rate of water propulsion by the California mussel, 417.
FULLER, JOHN L. Feeding rate of Calanus finmarchicus in relation to environmental conditions, 233.

GASTRIC epithelial cells, effects of diet, in grasshopper, 203.
GILCHRIST, FRANCIS G. Budding and locomotion in the scyphistomas of Aurelia, 99.
Gonad, changes of, seasonal, in adult clam, 406.
——, primary, development in Venus mercenaria Linnæus, 389.
Gorgodera amplicava, development of, in final host, 80.
GRAFFLIN, ALLAN L. Cyst formation in the glomerular tufts of certain fish kidneys, 247.
Grasshopper, effects of diet on gastric epithelial cells of, 203.
Gustation and olfaction in lepidopterous larvæ, 7.
GUTTMAN, S. A. Evidence for the production of accelerator and depressor substances by ultraviolet radiation of Limulus muscle, 75.

HASLER, ARTHUR D. The physiology of digestion in plankton Crustacea. II. Further studies on the digestive enzymes of (A) Daphnia and Polyphemus. (B) Diaptomus and Calanus, 290.
HODGE, CHARLES, 4TH. Some effects of diet on the gastric epithelial cells of the grasshopper, Melanoplus differentialis Thomas, 203.
HOPKINS, DWIGHT LUCIAN. The relation between food, the rate of locomotion and reproduction in the marine Amœba, Flabellula mira, 334.
Hormone, chromatophorotropic, of Crustacea, 344.
Hydroid, new genus and method of asexual reproduction, 327.
HYMAN, LIBBIE H. Reproductive system and copulation in Amphiscolops langerhansi (Turbellaria Acœla), 319.

ILYANASSA eggs, behavior of maturation spindles in polar fragments of, after centrifuging, 88.
Injury, mitotic rate in tadpole skin after, 37.
Intermediate-winged aphids and embryonic determination, 259.

KESSLER, WALTER R. *See* Dawson, Kessler and Silberstein, 125.
Kidneys, fish, cyst formation in glomerular tufts of, 247.
KLEIN, HERBERT M. *See* Churney and Klein, 384.
KLEINHOLZ, L. H. Studies in the pigmentary system of Crustacea. I. Color changes and diurnal rhythm in Ligia baudiniana, 24.
——, ——. ——. Studies in the pigmentary system of Crustacea. II. Diurnal

movements of the retinal pigments of Bermudan decapods, 176.

LICNOPHORA lyngbycola, new species of infusorian from Woods Hole, 212.
Ligia baudiniana, color changes and diurnal rhythm, 24.
Locomotion and budding in scyphistomas of Aurelia, 99.
——, rate of, reproduction, and food in marine Amœba, 334.
LOOSANOFF, VICTOR L. Development of the primary gonad in Venus mercenaria Linnæus, 389.
——, ——, —. Seasonal gonadal changes of adult clams, Venus mercenaria (L.), 406.
Loping of land-snails, 287.

MATURATION spindles, behavior of, in polar fragments of eggs of Ilyanassa obtained by centrifuging, 88.
MILES, SAMUEL STOCKTON. A new genus of hydroid and its method of asexual reproduction, 327.
Mitosis in Amœba proteus, 125.
——, rate of, in tadpole skin after repeated injury, 37.
Mnemiopsis, symmetry and regulation, 299.
MORGAN, T. H. The behavior of the maturation spindles in polar fragments of eggs of Ilyanassa obtained by centrifuging, 88.
Muscle, Limulus, production of accelerator and depressor substances by ultraviolet radiation, 75.

NITROGEN of particulate matter in the sea, 1.
Nitrogenous organic matter in sea water, experimental decomposition and regeneration, 165.
Nuclear constituents, electrical charge on, in salivary gland cells, 384.

ODLAUG, THERON O. Notes on the development of Gorgodera amplicava in the final host, 80.
Olfaction in lepidopterous larvæ, 7.
Onchidium, two types of respiration in, 41.
Ovary transplants in Drosophila melanogaster, 47.

PARAMECIUM aurelia, induction of endomixis, 196.
PARKER, G. H. The loping of land-snails, 287.
Phosphorus cycle and bacteria in the sea, 190.
Pigments, retinal, diurnal movements of, Bermudan decapods, 176.
Polar spot, significance of, in ripe unfertilized and in fertilized ascidian eggs, 311.

RAKESTRAW, NORRIS W. *See* von Brand, Rakestraw and Renn, 165.
Regulation and symmetry in Mnemiopsis leidyi, 299.
RENN, CHARLES E. Bacteria and the phosphorus cycle in the sea, 190.
——, —— —. *See* von Brand, Rakestraw and Renn, 165.
Reproduction, asexual, in new genus of hydroid, 327.
——, cycles of, and superfetation in poeciliid fishes, 145.
——, relation between food, locomotion rate and, in Amœba, 334.
——, system of, and copulation in Amphiscolops langerhansi, 319.
Respiration, two types, in Onchidium, 41.
Rhythm, diurnal, and color changes in Ligia baudiniana, 24.

SALIVARY gland cells, electrical charge on nuclear constituents, 384.
SCHECHTER, VICTOR. Calcium reduction and the prolongation of life in the egg cells of Arbacia punctulata, 366.
Sea water, nitrogenous organic matter in, experimental decomposition and regeneration of, 165.
SHULL, A. FRANKLIN. The production of intermediate-winged aphids with special reference to the problem of embryonic determination, 259.
SILBERSTEIN, JOSEPH K. *See* Dawson, Kessler and Silberstein, 125.
Snails, land, loping of, 287.
SONNEBORN, T. M. Induction of endomixis in Paramecium aurelia, 196.
Superfetation and reproductive cycle in poeciliid fishes, 145.
SVERDRUP, H. U. *See* Fox, Sverdrup and Cunningham, 417.

Symmetry and regulation in Mnemiopsis leidyi, 299.

TURNER, C. L. Reproductive cycles and superfetation in poeciliid fishes, 145.

ULTRAVIOLET light, effect on early development in eggs of Urechis caupo, 377.

—— radiation, production of accelerator and depressor substances, in Limulus muscle, 75.

Urechis caupo, eggs of, effect of ultraviolet light, 377.

VANDEBROECK, G. *See* Dalcq and Vandebroeck, 311.

WATER propulsion, rate of, by California mussel, 417.

WELSH, J. H., AND F. A. CHACE, JR. Eyes of deep sea crustaceans. I. Acanthephyridæ, 57.